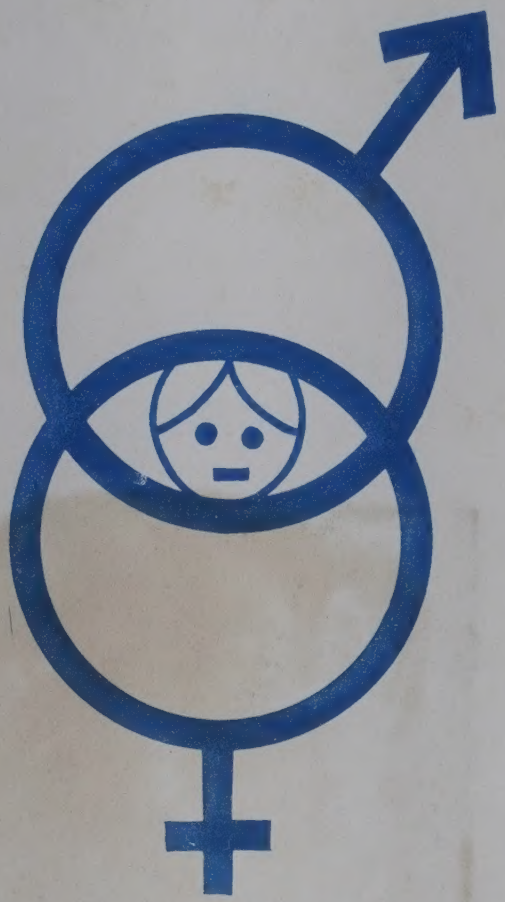
SEMINAR ON MANAGEMENT OPTIONS IN INFERTILITY



12th JUNE 1993

DEPT; OF OBSTETRICS & GYNAECOLOGY
FERTILITY DIVISION

SRI RAMACHANDRA MEDICAL COLLEGE
RESEARCH INSTITUTE
PORUR, MADRAS - 600 116.

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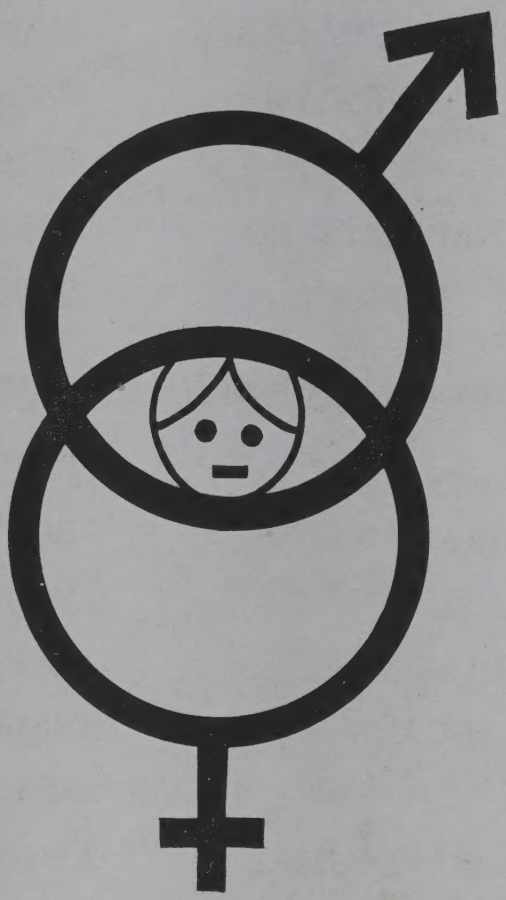
COMMUNITY HEALTH CELL

SEMINAR ON MANAGEMENT OPTIONS IN INFERTILITY



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SEMINAR ON MANAGEMENT OPTIONS IN INFERTILITY

12th JUNE 1993, SATURDAY

PROGRAMME

VENUE: **PATHOLOGY LECTURE HALL**

11.30 AM	–	REGISTRATION FREE
12.00 NOON	–	INTRODUCTION Dr. V. NALINI
12.05 PM	–	INFECTIONS IN FEMALE INFERTILITY AND MANAGEMENT -Dr. G.K. VASUMATHY
12.30 PM	–	OVULATORY DYSFUNCTION & INDUCTION OF OVULATION -Dr. SAVITRI SUBRAMANYAM
12.55 PM	–	OLIGOSPERMIA MANAGEMENT Dr. N. SANJEEVA REDDY
1.20 PM	–	LUNCH
1.45 PM	–	SURGICAL TREATMENT-AN OVERVIEW Dr. V. NALINI
2.10 PM	–	A ZOO-SPERMIA SURGICAL MANAGEMENT - Dr. RAVIKUMAR BARUA
2.35 PM	–	ENDOMETRIOSIS ENIGMA IN INFERTILITY - Dr. R. JAYANTHI
3.00 PM	–	'ART' IS IT THE FINAL ANSWER -

PANEL DISCUSSION

MODERATOR: **Dr. SAVITRI SUBRAMANYAM**

PANEL MEMBERS: **Dr. N. SANJEEVA REDDY**

Dr. R. PUSHPA
Dr. V. JAYA
Dr. SHANTHA

3.45 PM – DISCUSSION OVER COFFEE

ENDOMETRIOSIS – AN ENIGMA IN INFERTILITY

Dr. Jayanthi & Dr. Lalitha

Endometriosis, An Enigmatic Disease, is often associated with infertility, requiring women to make decisions regarding reproductive issues such as suppression of gonadal function, future childbearing & even surgical castration.

A disease of the higher socio-economic class, it is common among the reproductive age group, with an incidence of 5% in the general population.

During 1980s the symptom most likely to bring the patient with endometriosis to the physician's office was INFERTILITY. This parallels the rising use of laparoscopy and a more systemic investigation of the infertile couple.

Two very different questions must be addressed when examining the relationship between endometriosis & infertility.

Q.1. What is the incidence of infertility in patients with endometriosis

Ans. 30 - 40%

Q.2 What is the rate of endometriosis in the infertile patients

Ans. 20%

The other symptoms of endometriosis are - pelvic pain, DUB, & symptoms related to sites of implants.

SIGNS:

(1) Nodularity of tenderness of cul-de-sac commonest - 34 - 76%

(2) Parametrial thickening & adnexal masses

(3) A retrodisplaced uterus, often fixed - 22 - 46%

(4) Cutaneous lesions - Vagina, Perineum, Umbilicus & within surgical scars.

PATHOLOGY:

Endometriotic implants traditionally described as bluishgray "powder burns" on the peritoneal surfaces of the pelvic structures, bowel or pelvic peritoneum. * Scarring * Adhesions between pelvic viscera. Chocolate cysts of ovary.

Histologically presence of endometrial glands & Stroma in an ectopic site signifies an endometriotic implant.

Endometriosis causes a relative reduction in Fecundity. The proposed mechanisms of infertility are many -

1. **Mechanical factors**

Scarring & adhesions (extensive) of endometriosis simulates that of PID.

When ovaries & fallopian tubes are involved in extensive scarring, an impediment to the transport of the oocyte - cumulus cell complex is easily envisioned.

* Likewise, infertility seems to be possible outcome when the normal anatomic relationship between the ovary & the oviduct is distorted by large endometriomas.

* More subtle degrees of ovarian capsular scarring may contribute to the entrapment of oocytes despite the normal process of ovulation.

* * Lastly, among mechanical factors, tubal occlusion secondary to endometriosis is the exception rather than the rule, even when extensive pelvic adhesions are present.

2. **Tubal Dysfunction**
3. **Luteal phase defect**
4. Spontaneous abortions
5. Luteinized unruptured follicle syndrome
6. Alteration in the immune system - Subtle changes

Treatment

The treatment of infertility in patients with endometriosis has varied over the years.

Recommendations have included --------

I. Expectant management - following laparoscopic diagnosis of mild endometriosis

II. MEDICAL THERAPY

1. **Oestrogen + Progestogen** (continuous oral contraceptives) was used for pseudopregnancy. Disadvantage - high rate of side effects.
2. Other anovulatory regimens have similar success

DANAZOL – creates a chronic anovulatory pattern, most commonly used treatment for endometriosis today dose 100-800 mgm per day orally. This treatment in infertile woman with endometriosis reveals an average pregnancy rate of only 35% though Danazol is very effective in the removal of endometriotic implants its value in enhancing fertility is questionable.

PROGESTOGENS – given continuously (parenterally or orally) act by causing initial decidualization of endometrial tissue with eventual atrophy. The oral route is preferable in patients desiring conceptions because of rapid reversibility of the effect

* Dydrogesterone 5 mg bd daily for 9 months pregnancy rate - 52%

* Medroxyprogesterone acetate 30 mg daily × 90 days pregnancy rate 46%

ESTROGENS - poor efficacy + Serious side effects.

Methyltestosterone - Not effective in enhancing fertility.

GNRH AGONISTS - A family of promising new drugs in the Medical treatment of endometriosis. These act to inhibit LH & FSH release eventually resulting in hypoestrogenism that is "Medical Oophorectomy."

No evidence validating the efficacy of a single medical approach in treating infertility is available.

Surgical therapy for Infertility

A Surgical approach to enhancing fertility in women with endometriosis is the most commonly utilized form of therapy for this disorder.

Aim - To debulk the disease

Remove adhesions & other anatomic anomalies Conservative surgery -

1. Excision of implants or cauterization or Laser Vaporization of surface implants.
2. Uterine suspension - to prevent adhesion formation
3. Adhesiolysis + Partial omentectomy
4. Presacral neurectomy & Uterosacral ligament transection has been advocated in patients suffering from pelvic pain in addition to infertility.

Fertility rates after conservative surgery is about 54% MINOR SURGICAL PROCEDURES additionally have been used in women with endometriosis to treat infertility.

- Cervical dilatation
- Laparoscopic cauterization
- Laser vaporization of peritoneal implants
- Aspiration of peritoneal fluid
- Fallopian tube chromo perturbation & Hydrotubation

COMBINED MEDICAL - SURGICAL THERAPY - Merits conflicting CONCLUSION - Despite extensive clinical literature on the subject of endometriosis & its relationship with infertility there are still major gaps in our understanding.

ROLE OF IVF

Extensive endometriosis with multiple pelvic adhesions is an obvious cause for mechanical infertility. The reported success rates for patients with endometriosis treated by IVF are comparable to rates achieved in patients with a tubal factor. - 8.2 percent success rate per cycle. i.e. 46 pregnancies in 562 cycles. Apparently patients with endometriosis are good candidates for IVF: however, the primary procedure employed in treating these patients should be suppressive hormonal therapy (danazol) Surgery should probably be employed for advanced case in order to relieve large lesions, clear adhesions and restore normal pelvic anatomy and tubal patency.

SURGICAL TREATMENT IN FEMALE INFERTILITY

Dr. V. Nalini & Dr. Padma

Surgical treatment options in female infertility should be planned & carried out judiciously weighing the pros and cons, as the treatment itself may prove to be detrimental in view of the delicate nature of the reproductive organs and tissues.

With utmost caution surgical management are decided on the merits & demerits of each procedure, to optimize the result. Hence they are divided into Microsurgical procedure, miniminal invasive techniques, Microsurgical techniques and endoscopic procedures where & when needed, individually or together with other methods to prevent adhesions, scarring to ensure maximal result & success.

Multimodality therapy are advised according to organ level.

1. **Vagina:** For treatment of Dyspareunia:- vaginal dilation by dilator, FENTON's procedure, where vaginal introitus is narrow & rigid. The underlying Psychogenic background of vaginismus must be taken into account.

2. Excision of rigid hymen & transverse vaginal septum at the introitus.

3. Longitudinal septum of the vagina - Excision if there is dyspareunia, followed by specific instruction regarding frequency of intercourse.

4. **Cervix:**

    a. Cervical Erosion should be dealt with minimally either by cryocautery, laser after adequate treatment of inflammatory cause.

    b. Dilatation for cervical stenosis & strictures when associated with severe dysmenorrhoea. Utmost precaution is taken to avoid injury to the cervical mucosa, as cervical mucus is necessary for permeation of the sperm.

    c. Amputation as & when necessary - Bilateral tear treated with trachelorrhaphy after pruning excessive & unhealthy scarred cervix. Internal os region should never by compromised.

To conclude among all minimal procedures in the cervix Cervical dilatation alone gives good result.

Body of the Uterus:

a. Congenital (b) Uterus Bicornis Bicollis (c) uterus septate/ & subseptate which are commonly associated with primary or secondary infertility are corrected by unification

   (1) Tomkin-Jones operation

   (2) Strassman procedure. If she becomes pregnant, careful frequent check-up is mandatory, because the midline scar may prove to be weak.

b. Myoma uterus - single or multiple either submucous or interstitial of more 3×4 cms in size, at the cornual or internal os level. If it is symptomatic it is absolutely essential to do myomectomy (-first semen analysis to be normal, tube to be healthy, ovarian function should be normal) Myomectomy done with all precaution, Hemostasis is to be secured perfectly to avoid infection & weakness of the scar - to avoid unnecessary injury to the myometrial & endometrial architecture & tubo cornual junction. At the end of myomectomy procedure, uterus must be 6-8 weeks size, and anteverted. Preferably scar should be covered with Gore-Tex to avoid future adhesions. Concurrent endometriosis & other lesions should be treated.

c. Prolapse uterus in Nulliparous women - Purandare or Shirodkar sling operations are performed.

d. Ventri suspension is performed concurrently along with conservative surgery not as a primary procedure unless PCT is positive.

e. Ashermans syndrome - Management options are tricky, invariably leading to disappointing results.

Pelvic endometriosis & adenomyosis are dealt with separately.

Tubes: Tubes are the most delicate & important structure, in the entire reproductive arena especially the endosalopinx. Tubal mucosa is liable for trauma very easily, function of the tubes are ovum pick-up, ascent of the sperm, fertilization and transport of morula, Hence a deep understanding of anatomical & Physiological mucosal & angioarchitecture is necessary, before embarking upon

Tubal reconstructive surgery either by endoscopy or by microscopy surgery.

Tubal Microsurgery limits tissue damage, results in improved pelvic healing & is associated with superior tubal patency & pregnancy rates.

1. Salpingolysis/Adhesiolysis
2. Salpingostomy - Cuff & linear
3. End to end anastomosis
4. Tubo cornual implantation

FIGO CLASSIFICATION OF TUBAL SURGERY (Miami classification)

I. Tubal Implantation:
   a) Isthmus
   b) Ampulla (i.e. when isthmus removed)

II. Tubal anastomosis:
   a) Cornual - to isthmus
      to ampulla (isthmus absent)
   b) Isthmic - to isthmus
      to ampulla
   c) Ampulla - to ampulla

III. **Salpingo neostomy:**
   a) Terminal (opening outer point of tube)
   b) Medial; (mid ampulla)
   c) Isthmic (includes linear salpingostomy)

IV. Fimbrioplasty:
   a) Deagglutination
   b) Incision of fibrous ring
   c) Incision of tube wall

V. Adhesiolysis:
   a) Mild - 1 cm of tube/ovary involved
   b) Moderate-pertially encapsulated tube/ovary
   c) Severe; complete encapsulation of tube/ovary

VI. Combinations:
   a) Different operations right and left tube
   b) Different operations on same tube

VII. Others:
   a) Transplantation
   b) Estes procedure (Estes 1924)
   c) Insertion of prosthetic tube Taylor 1971

Tubal reversal gives 60 - 80% good result.

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Ovary

Place of surgery in the ovary is minimal.

Wedge resection is obsolete.

Polycystic ovary - Multiple puncture of follicular cyst attempted with Laparascopic lasers - Perivoarian adhesion should be avoided.

Rarely conservative surgery is performed in very young with malignant ovarian germcell Tumour like Dysgerminoma.

Endoscopies & Lasers

Laparoscopy: Inspection of the internal pelvic organs with an illuminated telescope through a small incision in the gas-distended abdominal cavity is termed laprascopy. The major diagnostic application of the procedure is in evaluating female infertility with particular regard to tubal patency and ovarian evidence of ovulation. The other therapeutic procedures in infertility which can be performed via a laparoscope are

1. Fulguration of endometriotic implants, aspirations of ovarian cyst, capture intact ova for In-vitro fertilization. Ventrisuspend the uterus, lyse tubal adhesions and perform fimbriolysis and salpingostomy. Use of the carbon dioxide laser to the operating laparoscope has introduced a new format for the performance of a variety of operative procedures such as the fulguration of endometrial implants and the dissolutions of pelvic adhesions.

Hysteroscopy: is the direct visualization of the endometrial cavity using an endoscope. It may be performed under local or general anaesthesia in women with repetitive abortions. Uterine synechiae, abnormal HSG with infertility are candidates for hysteroscope. Operative procedures under hysteroscopic guidance with video monitoring include resection & removal, & of submucous myomas lysis of synechiae, incision of uterine septa, removal of endometrial polyps.

Another endoscopy which is gaining a break through is salpingoscope (Falloposcope) which is guided through the hysteroscope and balloon Tuboplasty is being attempted currently.

To conclude the surgical treatment should be preceded by careful evaluation of both partners, consertative treatment and a thorough evaluation of the emotional & Psychological stress which may be a complicating factor in all types of infertility, prior to advocating further sophisticated modalities or abandoning hopes.

NONSURGICAL TREATMENT OF MALE INFERTILITY

Dr. N. Sanjeeva Reddy

Male infertility can be secondary to an extensive number of diverse abnormalities. Treatment regimens are specially tailored to the problem's cause and its clinical manifestations. The more common causes of Male infertility that are amenable to non-surgical therapy are coital timing, Testicular Hyperthermia, Gonadotoxins, Ejaculatory dysfunction, Immunologic events, Genital tract infection and Hormonal Imbalances.

The aim of the therapy in infertile men is to improve or normalize the fertility status of the individual in order to increase the chance of conception within a given period of time. There are two ways of treating the male infertility, either by specific or empirical therapy.

Specific therapy:

COITAL TIMING: Many couples may be unaware of the importance of the frequency and time of the caitus. If intercourse is infrequent and the poor timing may result is delayed conception. The optimal frequency of intercourse is believed to be every two to three days around ovulation since sperm survive in normal periovulatery cervical mucus for atleast 48 hours.

Education about the fertile period alone may be extremely beneficial in this circumstances.

TESTICULAR HYPERTHERMIA As long ago as 1941, it was recognised that increased testicular temperature could decrease the rate of sperm production.

Occupational and environmental exposure to heat may impair sperm production and reduce sperm quality. It is advisable that men with reduced semen quality minimise exogenous heat exposure to the testicles through relatively simple means. These include possibly switching to boxer shorts, eliminating excessive hot-tub use or changing the profession if possible.

SPERMATOGENIC TOXINS: (Gonado Toxins) Gonadotoxins are chemicals drugs, (or) other substances that have toxic and/or suppressive effects on sperm production, motility, or morphology. This effect may be mediated via the hypothalamicpituitary gonadal axis, directly on the spermatogenic epithelium, or even at the post-testicular level. Consequently a through occupational, medical, and drug - use history is critical in helping to identify potential hazards, gonadotoxins exposure, if clearly established should be completely curtailed. Some of the more commonly encountered ones are cigarette smoking, medications like spiranolactone, sulpasalazine, colchicine,

allopurinol, anabolic steroids, cyclosporine and chemotherapeutic agents like alkalating agents and procarbazine, alcohol, marijuana and alcohol. Encouraging to quit smoking, limiting the total dose of chemotherapy or using less gonadotoxic regimes should be employed to pratect future fertility potential.

EJACULATORY DYSFUNCTION: Abnormalities of ejaculation are not uncommon, and treatment modalities are usually quite successful, Retrograde ejaculation is defined as the backward flow of semen into the bladder, during the ejaculatory event. It may account for upto 2% of male infertility and upto 18% of cases of aspermia. Intravaginal voiding of the post ejaculate urine and ejaculating with a full bladder have been described as the treatment of retrograde ejaculation. Pharmacological treatment with medications possessing alpha-sympathomimetic properties like phenylpropanolamine 75 mg bid, Pseudoephedrine hydrochloride 60 mg Qid, Ephedrine sulphate 50 mg Qid, Imipramine 25 mg bid for a period of 2 weeks is often used as a first step in attempting to restore antigrade ejaculation systemic aialkalanization with oral bicarbonate. Collection of the semen/urine mixture by catheterisation or voiding and processing it for artificial insemination or GIFT. In anejaculation, semen can be collected by rectal prabe-electroejaculation technique.

IMMUNOLOGICAL EVENTS: Antisperm antibodies attached to the sperm surface may impair fertility. The Bad fact of the matter is that despite the now extensive literature which is concerned with the detection of antisperm antibodies, no one has produced any satisfactory way to treat the problem once it is diagnosed and to over come the infertility that in induced,

Immuno suppressive therapy: Using methyl prednisolone either high dose 96 mg daily for 7 days starting 21 days prior to the female partners ovulation or lowdose 10 mg/day for 6 months, can improve fertility.

Artificial insemination (AIH): The results may be improved by washing the sperm prior to insemination (IUI). Auto immune infertility is a disappointing area in which to treat patients with infertility.

Empirical Therapy:

Empiric, or nonspecific, Medical Therapy is based on Theoretical concepts without proven efficacy. The word derives from the greek word "EMPEIRIKOS", which means "a Doctor relying upon experience only". The empiric therapy might be offered to any infertile man for whom a specific treatment is unavailable or in whom a specific treatment has failed.

ANTI-ESTROGENIC THERAPY: Clomiphene Citrate and Tamoxifen Citrate are two of the antiestrogenic agents used to treat male infertility.

CLOMIPHENE CITRATE: A reasonable starting dose is 25 mg × 25 days in a month for atleast six to nine months. Side effects of clomiphene citrate include

visual disturbances, weight gains, and increased blood pressure. But these are usually, self limiting.

TAMOXIFEN CITRATE: Tamoxifen citrate is antiestrogen that is commonly used in the treatment of women with metastatic carcinoma of the breast. It is believed to have less estrogenic activity than clomiphene. In can be used as either low dose (5-10 mg/day) or High dose (20 mg/day).

AROMATASE INHIBITORS:

Peripheral conversion of androgens to estrogens by the enzyme aromatase is the major source of Estrogen in men. TESTOLACTONE lowers serum Estradiol levels in men through the inhibition of the aromatase enzyme and has no intrinsic Androgenic or Estrogenic activity. It can improve testicular function in two ways, first by reducing Estrogen concentration with in the testis, second by increasing the gonadotropin stimulation of the testis. Testolactone is given 1g/day.

GONADOTROPINS:

Initiation and maintenance of spermatogenesis, as well as the normal function of the male sex accessory glands, is dependent upon the proper stimulation of the testis by gonadotropin. Treatment of hypogonadotropic hypogonadal men with exogenous gonadotropin or GnRh has produced remarkably good results compared with treatment of other male problems. Many agents have been available to raise the serum levels of Gonadotropin. The most common preparations are (HCG & HMG). The dosage schedule is 5000 IU HCG per week, together with 75 IU HMG perday or 150 IU HMG three times a week for alteast, 12 weeks.

GONADOTROPIN - RELEASING HORMONE:

An alternative method of increasing pituitary gonadotropin secretion is by using the newly available synthetic analogs of GnRH. These agents have shown to produce better results than HCG and HMG in the treatment of hypogonadotropic hypogonadal men and are bow being used in men with idiopathic oligospermia. These drugs have a very short biologic half life and they require frequent administration (either intranasally or by subcutaneous injection) or a portable plumb. The usual daily is 0.1 to 0.5 mg. Because of the expense and lack of specific dosage/this form of Therapy should be used only in clinical trials.

ANDROGENS:

Adequate levels of circulating androgens are clearly essential for the maintenance of male sexual and reproductive functions. Administration of exogenous Androgens will result in suppressed gonadotropin secretion and hypogonadotropic hypogonadism despite apparently normal levels of androgens in the peripheral serum. Therefore therapeutic doses of exogenous androgens have been low in order to avoid pituitary suppression. Toxicity including cholestatic jaundice, petiosis

hepatis, and occasional Gynecomastia, appears to outweigh the efficacy of this form of therapy.

TESTOSTERONE REBOUND THERAPY

Parenteral administration of long acting testosterone esters can produce azoospermia through inhibition of gonadotropin secretion. Following with-drawal of therapy, spermatogenesis will resume with in 4 months, and the sperm counts may be even higher; hence the term, "testosterone resound therapy".

Suppression of spermatogenesis has been induced with either testosterone injections 200 mg given weekly or combined testosterone ester injections 200 mg every third week and Norethandrolone 20 mg/day orally. This therapy may be worth trying in selected azoospermic patients who ave no other therapeutic option.

MISCELLANEOUS TREATMENTS:

Various non endocrine treatments aimed at improving the Quality of semen have been tested currently are being evaluated. Thyroxine, arginine, corticosteroid, antibiotics, zinc, Methylxanthines, bromocriptine, and vitamins A, E, and C have all been show to be of little or no benefit in the treatment of subfertile men without evidence of a specific deficiency.

Other forms of empiric therapy available to couples with a seminal defect include artificial insemination (either intracervical or intrauterine) Gamete intrafalloplan transfer, invitro fertilization (IVF), and IVF combined with micromanipulation of Gametes, such as zona drilling or Microinjection. When the husband has severe seminal abnormalities, the couple should be counselled about alternative, such as adoption or artificial insemination with donor semen.

INFECTIONS IN FEMALE INFERTILITY

G.K. Vasumathi

Infection has been an important causative factor of infertility. Significant morbidity like chronic pelvic pain, ectopic pregnancy are other sequelae in women of child bearing age.

Many organisms are present in the lower genital tract, e.g., anaerobes such as bacteroides and peptococcus species and aerobic bacteria (endogenous flora). When the organisms reach the upper genital tract during gynecological procedures, like dilatation and curettage, medical termination of pregnancy, insertion of IUCD or laparoscopy with chromotubation, these become secondary invaders and pathogenic resulting in pelvic inflammatory disease (endometritis, salpingitis and salpingo oopheritis). Later sequelae are pelvic adhesions causing blockage at various levels and alternations in secretory physiology affecting the ovum pickup etc.

Specific infections include sexually transmitted diseases like Neisseria gonorrhoea, chlamydia trachomatis, trichomonas vaginalis. Tuberculosis of the genital tract is to be investigated for, in all cases of infertility. Genital tuberculosis may be responsible in 5% to 10% of infertile women.

Trichomonads and spermatozoa have been implicated as carriers of infection. Being motile, they can ascend up to fallopian tubes and the peritoneal cavity. When organisms are attached to trichomonads or spermatozoa, they move to the upper genital tract and result in pelvic inflammatory disease. PID can also result from a focus elsewhere in the body specially appendicitis and tuberculous infection.

Chlamydia (Ct) has been recognized as a major pathogen of genital tract causing mongonococcal urethritis, cervicitis and PID. Culturing chlamydia is difficult. Now serological survey for antichlamydial antibodies can be done as a screening procedures in high risk group. Various studies suggest that antichlamydial antibodies titre is highly sensitive predictor of tubal disease. Chlamydia is well documented to be responsible for non-gonococcal urethritis and epididymitis in the male. Hence, it is very essential that both the partners are to be investigated with careful history taking, evaluation and treatment as a single biological unit.

Mycoplasma infections have also been implicated in reproductive failure or relative infertility and repeated foetal wastage due to preterm labour and abortions. TORCH infections (TOXOPLASMA, other infections like Syphilis, Rubella, Cytomeqalovirus, Herpes simplex) are also responsible.

Clinical features of PID include lower abdominal pain, fever, abnormal vaginal discharge, menstrual irregularities, urinary symptoms, proctitis symptoms, pelvic tenderness, presence of an adnexal mass. Laparoscopy aids in diagnosis specially if

a pelvic mass in present, if ectopic pregnancy is to be excluded or if there is no response to the treatment

Treatment: Tetracycline 500 mgms. 4 times a day for 7 to 14 days or Doxycycline 100 mgms. twice daily for 7 to 14 days is the drug of choice in chlamydial infections. Single antibiotic is inadequate in the treatment of PID. Drugs like Ampicillin Gentamycine, Metronidazole, Clindamycin, Ciprofloxacin are given in combination.

To conclude, infections appear to be gaining importance as causative factors of reproductive failure. Neisseria gonococci, chlamydia, mycoplasma, tuberculosis are of concern now. As the infection may be polymicrobial in nature, combination therapy may be required. Attempts must be made to reduce both prevalence and complications of PID, so that the morbid sequelae like infertility, chronic pelvic pain or ectopic pregnancy could be avoided.

Best

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from a

WELL WISHER

* * *

DIAGNOSIS AND MANAGEMENT OF ANOVULATION

Dr. Savitri Subramanyam

Women with Anovulatory infertility may present with Amenorrhoea (Primary or Secondary)

Anovulatory menstruation (Oligomenorrhoea or irregular cycles) or rarely with regular menstruation but low or undetectable progesterone levels - in the Luteal phase.

Causes of Anovulation

A. Primary Ovarian Failure

Genetic (eg Turner)
Auto - Immune

B. Secondary Ovarian Dysfunction

i. Disorders of Gonadotrophin Regulation

Specific – Hyperprolactinemia
Kallmann's Syndrome

Functional – Weight loss
Exercise
Idiopathic

ii. Gonadotrophin Deficiency

Pituitary Tumour
Pituitary Infarction
Pituitary Ablative Therapy

iii. Polycystic Ovary Syndrome

In patients with Amenorrhoea the important investigations are measurement of

Serum FSH

Prolactin – Thyroid function

& Assessment of Estrogen Production

Assessment of Estrogen Production

This allows the investigator to distinguish between Mild disorder of Gonadotrophin regulation or a more profound disorder of Gonadotrophin regulation.

Which results in insufficient levels of LH & FSH to sustain normal ovarian estrogen production. For this the progesterone withdrawal test is a simple convenient & reliable test.

Induction of Ovulation

The aforementioned tests enable the investigator to select the appropriate form of treatment for induction of ovulation.

Patients with Primary Ovarian failure will not benefit form induction of ovulation.

Patients with normal or low levels of FSH but raised prolactin. The first line of treatment is Bromocriptine.

In well estrogenised patient with normal FSH & prolactin concentration the treatment of choice for induction of ovulation is Anti Estrogen - commonly used being Clomiphene Citrate.

Patients with Low estrogen (Hypogonodotrophic Hypogonadism) ovulation can be induced with exogenous gonadotrophins - hMG & hCG

The pulsatile infusion of GnRH is most physiological but availability & cost put a restraint on its use.

Best

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from

FDC

❖ ❖ ❖

IS A.R.T. THE FINAL ANSWER?

Dr. Savitri Subramanyam.

It is true that a Major break through has occurred in Medical Technology in the treatment of infertile couple & it is "In Vitro fertilization".

This procedure has evoked various kinds of reactions from all categories of population - On one hand we have the passionate supporters, the patients themselves who wish to cling on to this hope - expect it to work like magic, unwilling to reationalise their expectation & remember - that Ovulation induction, & Oocyte retrieval rates are excellent (90-80%), but fertilization attained in laboratory is moderate (50%), while abortions are frequent (30%) & the ultimate "Take home baby rate", even in the best of centres in the world is a depressingly low 10%.

This has made the other group of people, the non supporters of A.R.T., argue that the time, Money & expertise spent on A.R.T. is a colossal waste more so in the over populated Indian context - such is the controversy of A.R.T. from the definition to ethics & legalities.

We hope to project our views on this questions after analysis –

As a) When is Art the only choice

b) When can it be offered to improve chances of pregnancy

c) When is it resorted to - As the last thing as nothing else works

At the end of this panel certain Guidelines would help those Primary care Physician who do the first confrontation with an infertile couple be able to put facts infront of them so that the decision making becomes more scientific & hence meaningful.

What to expect, when, where & at what cost (Time, Emotion & Money) can/should be told to the patient without being confusing & elusive & this is what is aimed at, conveying to the participants through this panel discussion.

WITH BEST COMPLIMENTS

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